

WHAT IS CLAIMED IS:

1           1. A liquid sensing apparatus comprising a liquid containing vessel  
2        having an insulating inner surface, an outer surface and electronic components  
3        disposed between said insulating inner surface and said outer surface, said  
4        electronic components providing a sensory output indicative of a liquid level of a  
5        liquid within said liquid containing vessel.

1           2. The liquid sensing apparatus as in claim 1, wherein said electronic  
2        components include a capacitor comprising at least two conductive plates  
3        disposed adjacent to the insulating inner surface.

1           3. The liquid sensing apparatus as in claim 2, wherein said liquid  
2        containing apparatus includes a lip and a bottom and said conductive plates  
3        extend substantially from said lip to said bottom.

1           4. The liquid sensing apparatus as in claim 2, wherein at least one of  
2        said conductive plates extends beneath at least part of a bottom of said  
3        insulated inner surface.

1           5. The liquid sensing apparatus as in claim 1, wherein the electronic  
2        components provide said sensory output with at least one characteristic that  
3        varies as a function of said liquid level.

1           6. The liquid sensing apparatus as in claim 5, wherein said  
2        characteristic comprises at least one of amplitude, frequency, repetition rate  
3        and duty cycle.

1           7. The liquid sensing apparatus as in claim 1, in which said sensory  
2        output is perceptible by a changeable non-visual attribute.

1               8.     The liquid sensing apparatus as in claim 1, wherein said sensory  
2     output is one of audible, vibratory and tactile.

1               9.     The liquid sensing apparatus as in claim 5, wherein said sensory  
2     output assumes a distinct characteristic said liquid level is at or above a  
3     predetermined threshold liquid level.

1               10.    The liquid sensing apparatus as in claim 9, wherein said sensory  
2     output achieve a continuous state when said liquid level is at or above the  
3     threshold liquid level.

1               11.    The liquid sensing apparatus as in claim 1, wherein the sensory  
2     output is a voice annunciation respecting the liquid level.

1               12.    The liquid sensing apparatus as in claim 1, wherein said liquid  
2     containing vessel comprises one of a cup, a pot, a jug, a pitcher, a carafe, and  
3     a measuring cup.

1               13.    The liquid sensing apparatus as in claim 1, wherein said electronic  
2     components include a removable battery and said outer surface includes a door  
3     or plate for accessing said removable battery.

1               14.    The liquid sensing apparatus as in claim 1, wherein said liquid  
2     containing vessel includes an insulating inner wall, an outer wall and a space  
3     therebetween, said insulating inner surface forming an external part of said  
4     inner wall and said outer surface forming an external part of said outer wall.

1               15.    The liquid sensing apparatus as in claim 14, wherein said  
2     electronic components include a capacitor formed of at least two conductive  
3     plates disposed adjacent to an internal surface of said insulating inner wall, and

4       wherein said electrical components are disposed within a hollow space between  
5       the inner wall and the outer wall.

1           16. A liquid sensing apparatus comprising a liquid containing vessel  
2       including a wall having an inner surface and an opposed outer surface and  
3       formed of an insulating material, a duality of conductive plates disposed on said  
4       outer surface and covered by a handle member permanently affixed to said  
5       liquid containing vessel and having electronic components therein, said  
6       electronic components including a capacitor formed of said duality of conductive  
7       plates and providing a sensory output indicative of a liquid level of a liquid within  
8       said liquid containing vessel.

1           17. A method for sensing liquid level comprising:  
2              providing a liquid containing vessel having an insulating inner surface  
3       and an outer surface and electronic components disposed therebetween, said  
4       electronic components including at least two conductive plates of which at least  
5       one conductive plate is disposed between said inner surface and said outer  
6       surface in proximity with a volume of the vessel;  
7              providing a liquid with a liquid level in said liquid containing vessel so as  
8       to at least partly occupy the volume, thereby affecting a capacitance value  
9       associated with the conductive plates, the capacitance varying with the liquid  
10      level;  
11             sensing the capacitance that varies with said liquid level; and  
12             providing a sensory output that is indicative of said liquid level, at least  
13      partly as a function of the capacitance parameter.

1           18. The method as in claim 17, wherein said providing a sensory  
2       output comprises providing a sensory output signal that is perceivable by a non-  
3       sighted user.

1           19. The method as in claim 18, wherein said providing a sensory  
2       output comprises providing a signal that varies as to at least one of amplitude,

3       frequency, repetition rate and duty cycle as a function of at least one of a  
4       sensed capacitance within a range corresponding to a range of liquid levels,  
5       and a sensed capacitance corresponding to the liquid level reaching a  
6       predetermined threshold.

1           20. The method as in claim 19, wherein a continuous change of said  
2       liquid level produces a continuous change in the sensory output.